

REMARKS

This Amendment is filed in response to the Office Action mailed on Dec. 8, 2006. All objections and rejections are respectfully traversed.

Claims 1, 4, 8-11, 13-16, 18-20, 24-42 are now pending in the case.

Claims 1, 8-9, 11, and 19-20 have been amended.

Claims 32-42 have been added.

Request for Interview

The Applicant respectfully requests a telephonic interview to advance the prosecution of this case. The Applicant believes an interview will be most productive after the Examiner has had an opportunity to review this Amendment, but prior to the issue of the next Office Action. As the Applicant can not determine when the Examiner will have time to consider this Amendment, given PTO workload, the Applicant respectfully requests the Examiner contact the Applicant at 617-951-2500 when he reviews this Amendment so that a time convenient to the Examiner may be arranged for a telephonic interview.

New Claims

The Applicant has added new claims 32-42. In hopes of advancing the prosecution of the case, the Applicant would like to briefly discuss certain ones of these new claims, and highlight some of their novel aspects over Crayford, U.S. Patent No. 6,269,098, issued on July 31, 2001 (hereinafter "Crayford"), which the Examiner has raised in this case.

For example, new claims 32, representative in part of many of the new claims, sets forth (emphasis added):

32. A method comprising:
- receiving a frame at a input port, the frame including a protocol type;
 - accessing a virtual local area network (VLAN) value associated with the input port;
 - associating the frame with a protocol code based on the frame's protocol type;
 - concatenating the protocol code together with the VLAN value to produce a mapping address;*
 - applying the mapping address to a memory structure to obtain a derived VLAN value that is based upon both the frame's protocol type and VLAN value associated with the input port, the derived VLAN value to differ from at least one other derived VLAN value for another frame received on the input port, but having a different protocol type;*
 - accessing a forwarding database with the derived VLAN value to determine a destination address; and
 - forwarding the frame to an output port for transmission to the destination address.

By way of background, Crayford describes a network switch for switching frames among multiple ports, in which the number of VLANs supported may be readily scaled. *See* col. 2, lines 10-13. The switch supports “tagged frames,” which include a VLAN ID value in the frames themselves (*see* Fig. 7B, 2B) and “untagged frames,” which do not include a VLAN ID value in the frames (*see* Fig. 7A). *See* col. 8, lines 23-48. For tagged frames, the VLAN ID values are mapped to corresponding shorter VLAN index values (only 5-bits as opposed to the 16-bit VLAN ID values) that are then used in forwarding the frames. *See* col. 8, lines 38-48 and col. 9, lines 60-62 and Fig. 19. For untagged frames, Source Address (SA), receive (RX) port number, and Destination Address (DA) are used to look up the 5-bit VLAN index values, which are then used in forwarding the frames. *See* col. 8, lines 52-62 *see* col. 10, lines 14-18.

The Applicant respectfully urges that Crayford is silent concerning the Applicant's claimed “*concatenating the protocol code together with the VLAN value to produce a mapping address*” and “*applying the mapping address to a memory structure to obtain a*

derived VLAN value that is based upon both the frame's protocol type and VLAN value associated with the input port" and "the derived VLAN to differ form at least one other derived VLAN value for another frame received on the input port, but having a different protocol type."

While the Applicant **concatenates a protocol code** together with a VLAN value to produce a mapping address, and then uses the mapping address to obtain a derived VLAN value, Crayford does not use any type of protocol code in deriving a "VLAN index," much less concatenate a protocol code with a VLAN value as part of the process. In Crayford's description for a "tagged frame," a mapping table maps a VLAN ID value included in a frame to an appropriate "VLAN index" value. *See* Crayford col. 9, lines 60-62 and Fig. 19. While Crayford's frame may be associate with a protocol, for example IP, IPX, etc., a protocol code is not a factor (i.e. plays no role) in Crayford's mapping, and is not concatenated with anything. That is, Crayford would not map a IP frame differently than a IPX frame, for example. Similarly, in Crayford's description for an "untagged frame," a Source Address (SA), a receive (RX) port number, and/or a Destination Address (DA) are mapped to a VLAN index value. *See* col. 8, lines 52-62 *see* col. 10, lines 14-18. Again, while Crayford's frame may be associate with a protocol, a protocol code have is not used in the mapping, and certainly is not concatenated with anything to become a factor in the mapping.

Since Crayford pay little head to protocol type in mapping to a "VLAN index," Crayford clearly does not suggest a technique where *"the derived VLAN to differ form at least one other derived VLAN value for another frame received on the input port, but having a different protocol type."*

Accordingly, the Applicant respectfully urges that Crayford is legally insufficient to anticipate or make obvious the Applicant's claims due to at least the absence of *"concatenating the protocol code together with the VLAN value to produce a mapping address"* and *"applying the mapping address to a memory structure to obtain a derived VLAN value that is based upon both the frame's protocol type and VLAN value associated with the input*

port” and “the derived VLAN to differ form at least one other derived VLAN value for another frame received on the input port, but having a different protocol type.”

Claims Rejected Under 35 U.S.C. § 102

At paragraphs 1-2 of the Office Action, claims 1-2, 5, 7, 9-11, 13-16, 18-20, 24, 26, 28 and 30 were rejected under 35 U.S.C. §102(e) over Crayford.

The Applicant’s claim 1, representative in part of the other rejected claims, sets forth:

1. A method of operating a switch for frames in a computer network, comprising:
 - receiving a frame (received frame) at a port of said switch, said received frame containing one or more indicia of frame type, ***said one or more indicia of frame type including an indicia of a protocol type;***
 - accessing a virtual local area network (VLAN) value associated with the port;
 - deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said VLAN value,*** said derived VLAN value for use internal to said switch;
 - accessing a forwarding database with said derived VLAN value to determine a destination address; and,
 - forwarding, in response to said derived VLAN value, said received frame to an output port for transmission to the destination address.

Crayford is summarized above, and the Examiner is referred thereto.

The Applicant respectfully urges that Crayford is silent concerning the Applicant’s claimed ***“said one or more indicia of frame type including an indicia of a protocol type”*** and ***“deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said VLAN value.”***

While the Applicant uses a protocol type as a factor in deriving a VLAN value, Crayford does not employ a protocol type in deriving a “VLAN index.” In Crayford’s

description for a “tagged frame,” a mapping table maps a VLAN ID value included in a frame to an appropriate “VLAN index” value. *See* Crayford col. 9, lines 60-62 and Fig. 19. While Crayford’s frame may be associate with a protocol, for example IP, IPX, etc., a protocol type is not a factor (i.e. plays no role) in Crayford’s mapping. That is, Crayford would not map a IP frame differently than a IPX frame, for example. Similarly, in Crayford’s description for an “untagged frame,” a Source Address (SA), a receive (RX) port number, and/or Destination Address (DA) are mapped to a “VLAN index” value. *See* col. 8, lines 52-62 *see* col. 10, lines 14-18. Again, while Crayford’s frame may be associate with a protocol, a protocol type have is not used in the mapping, or otherwise used to derive Crayford’s “VLAN index” value.

Accordingly, the Applicant respectfully urges that Crayford is legally insufficient to anticipate the present claims under 35 U.S.C. §102 because of the absence of the Applicant’s claimed novel ***“said one or more indicia of frame type including an indicia of a protocol type”*** and ***“deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type and said VLAN value.”***

Claims Rejected Under 35 U.S.C. § 103

At paragraph 3-4 of the Office Action, the claim 3-4, 6, 8, 25, 27, 29 and 31 were rejected under 35 U.S.C. § 103(a) in light of Crayford in view of Shani, U.S. Patent No. 6,023,563, issued on February 8, 2000 (hereinafter “Shani”).


These claims are believed to be allowable as they depend from a believed-allowable base claim.

In the event that the Examiner deems personal contact desirable in disposition of this case, the Examiner is encouraged to call the undersigned attorney at (617) 951-2500.

In summary, all the independent claims are believed to be in condition for allowance and therefore all dependent claims that depend there from are believed to be in condition for allowance. The Applicant respectfully solicits favorable action.

Please charge any additional fee occasioned by this paper to our Deposit Account
No. 03-1237.

Respectfully submitted,



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